



J KXkkp'DS-8100HMF1-TH Series Mobile DVR

User Manual

Version 2.2.0

Hikvision® Network Digital Video Recorder User Manual

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Regulatory Information

FCC Information

FCC compliance: This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement



This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC.



2002/96/EC (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see:

www.recyclethis.info.

Description on Laser Specification

The optical disc drive such as DVD Super Multi (Double Layer) Drive 22X that is used in this computer is equipped with laser. The classification label with the following sentence is affixed to the surface of the drive.

CLASS 1 LASER

PRODUCT TO IEC60825-1

LASER KLASSE 1

The drive with the above label is certified by the manufacturer that the drive complies with the requirement for laser product on the date of manufacturing pursuant to article 21 of Code of Federal Regulations by the United States of America, Department of Health & Human Services, Food and Drug Administration.

In other countries, the drive is certified to comply with the requirement pursuant to IEC 60825-1 and EN 60825-1 on class 1 laser product.

This computer is equipped with the optical disc drive in the following list according to the model.

Safety Warnings and Cautions

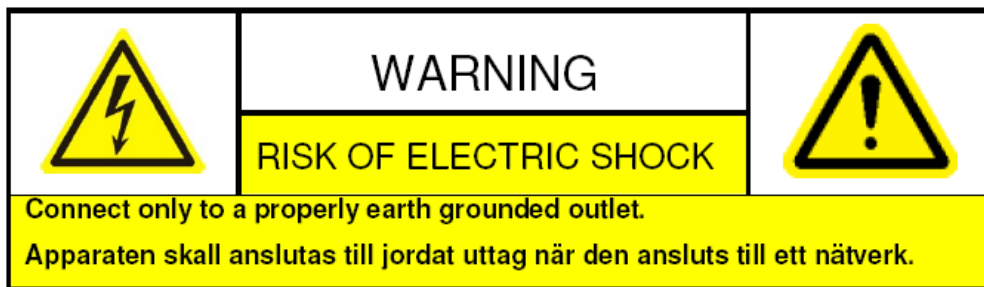
Please pay attention to the following warnings and cautions:



Hazardous Voltage may be present: Special measures and precautions must be taken when using this device. Some potentials (voltages) on the device may present a hazard to the user. This device should only be used by the Employees from our company with knowledge and training in working with these types of devices that contain live circuits.



Power Supply Hazardous Voltage: AC mains voltages are present within the power supply assembly. This device must be connected to a UL approved, completely enclosed power supply, of the proper rated voltage and current. **No user serviceable parts inside the power supply.**

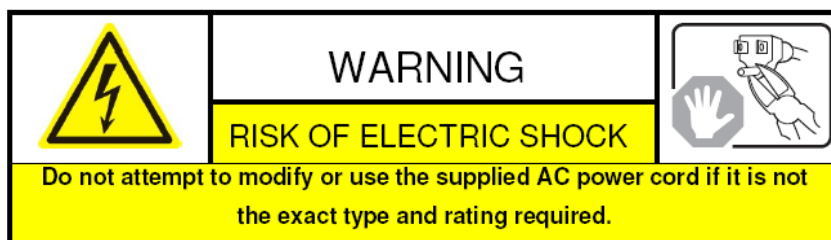


System Grounding (Earthing): To avoid shock, ensure that all AC wiring is not exposed and that the earth grounding is maintained. Ensure that any equipment to which this device will be attached is also connected to properly wired grounded receptacles and are approved medical devices.



Power Connect and Disconnect: The AC power supply cord is the main disconnect device to mains (AC power). The socket outlet shall be installed near the equipment and shall be readily accessible.

Installation and Maintenance: Do not connect/disconnect any cables to or perform installation/maintenance on this device during an electrical storm.



Power Cord Requirements: The connector that plugs into the wall outlet must be a grounding-type male plug designed for use in your region. It must have certification marks showing certification by an agency in your region. The connector that plugs into the AC receptacle on the power supply must be an IEC 320, sheet C13, female connector. See the following website for more information <http://kropla.com/electric2.htm>.



Lithium Battery: This device contains a Lithium Battery. There is a risk of explosion if the battery is replaced by an incorrect type. Dispose of used batteries according to the vendor's instructions and in accordance with local environmental regulations.

Perchlorate Material: Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate. This notice is required by California Code of Regulations, Title 22, Division 4.5, Chapter 33: Best Management Practices for Perchlorate Materials. This device includes a battery which contains perchlorate material.

Taiwan battery recycling:

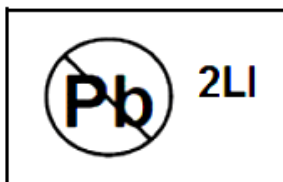


Please recycle batteries.



Thermal and Mechanical Injury: Some components such as heat sinks, power regulators, and processors may be hot; care should be taken to avoid contact with these components.

Electro Magnetic Interference: This equipment has not been tested for compliance with emissions limits of FCC and similar international regulations. This device is not, and may not be, offered for sale or lease, or sold, or leased until authorization from the United States FCC or its equivalent in other countries has been obtained. Use of this equipment in a residential location is prohibited. This equipment generates, uses and can radiate radio frequency energy which may result in harmful interference to radio communications. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is required to take measures to eliminate the interference or discontinue the use of this equipment.



Lead Content:

Please recycle this device in a responsible manner. Refer to local environmental regulations for proper recycling; do not dispose of device in unsorted municipal waste.

Preventive and Cautionary Tips

Before connecting and operating your device, please be advised of the following tips:

- The installation of mobile DVR must be done by qualified automobile assembly manufacturers or dealers. And the device should be installed at well-ventilated location inside the automobile.
- Please make yourself be familiar with the power connection before installation.
- A factory recommended HDD should be used for this device.
- The wireless and GPS antennas should be installed on top of vehicle or below the windshield and make sure they are not covered or blocked by any other object. When both the master and slave antennas are connected, locate them vertically with above 20cm distance from each other.
- The device contains no user-serviceable parts. Do not disassemble the device for repair or maintenance by yourself.
- If you encounter any questions about this device, please contact the technicians from HIKVISION or its authorized suppliers.

Product Key Features

Main Features

- Newly-featured GUI with easy and flexible operation.
- Up to 4 network cameras are connectable.
- Each analog channel supports 4CIF real time encoding.
- H.264 (standard) video compression with high reliability and superior definition.
- Two pluggable 2.5-inch SATA disks are connectable.
- Patented hard disk vibration reduction technology.
- Built-in 3G (WCDMA/CDMA2000/TD-SCDMA) module.
- USB / eSATA interface, SD & SIM card interface, audio & video output interface and network interface are provided on the front panel.
- Built-in high-sensitivity GPS module.
- Interfaces are provided for recording driving information of the vehicle's turning left/right, braking, reversing, etc.
- Aviation connectors adopted for all video input/output, audio input/output and power supply, ensuring high stability of signal connection.
- Delay (0min~6h) shutdown and 24-hour scheduled startup/shutdown configurable.
- Wide-range power input (+6 VDC ~+36 VDC).
- Aluminum chassis.

Local Monitoring

- 1/4/9/16-division live view is supported, and the display sequence of screens is adjustable.
- Live view screen can be switched in group, and manual switch and automatic cycle review is also provided, the interval of automatic cycle can be adjusted.
- Motion detection, tamper-proof, video exception alarm and video loss alarm functions.
- Privacy mask.

HDD Management

- Up to two 2.5-inch SATA hard disks and HDD S.M.A.R.T. function is supported.
- Support HDD sleeping function.
- File format compatible with Windows system; eliminate the file fragments by disk space pre-allocation.

Record and Playback

- Each camera can be configured with normal and event compression parameters. Sub-stream can be configured locally.
- Multiple recording types: normal, alarm, motion, motion | alarm, motion & alarm.
- 8 recording time periods with separate recording types configurable.
- Pre-record and post-record for alarm and motion detection for recording.
- Search and play back record files by channel number, recording type, start time, end time, etc.

- Support pause, speed up, speed down, skip forward, and skip backward when playback.

Backup

- Export video data by USB device and eSATA device.
- Export video data by Mobile DVR Backup Device.
- Management and maintenance of backup devices.

Alarm and Exception

- Management of alarm input/output.
- Management of alarm for video loss, motion detection, video tampering.
- Configurable arming time of alarm input/output.
- Alarm for video loss, motion detection, tampering, abnormal signal, video input/output standard mismatch, illegal login, network disconnected, IP confliction, HDD error, and HDD full.
- Alarm triggers full screen monitoring, audio alarm and alarm output. Motion detection and alarm can trigger recording. Exception can trigger audio alarm and alarm output.
- Automatic restore when system is abnormal.

Other Local Functions

- Two-level user management; admin user is allowed to create many operator accounts.
- Operation, alarm, exceptions and log recording and searching.
- Import and export of device configuration file.

Network Functions

- 1 self-adaptive 10M/100M/1000M network interface.
- 4 network interfaces with PoE function for network cameras.
- WCDMA, CDMA2000 and TD-SCDMA supported.
- WiFi supported.
- Remote configuration and operation by iVMS platform and WVS platform.
- TCP/IP protocol, DHCP, DNS, NTP, and SADP are supported.
- TCP, UDP and RTP for unicast.
- Remote search, playback, download of record files.
- Resume broken transfer when downloading.
- Remote parameters setup; remote import/export of device parameters.
- Remote viewing of the device status, system logs and alarm status.
- Remote HDD formatting, program upgrading and system restart.
- RS-232, RS-485 parameters configuration and transparent channel transmission.

Development Scalability:

- SDK for Windows and Linux system.
- Development support and training for application system.

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Chapter 1

Introduction

1.1 Verify Contents

Verify that the package contents are correct by checking the items against the packing list.

Note: Please contact your dealer for damaged or missing items.

1.2 Front Panel and Rear Panel

1.2.1 Front Panel

DS-8100HMFI-TH Front Panel is shown in figure below.

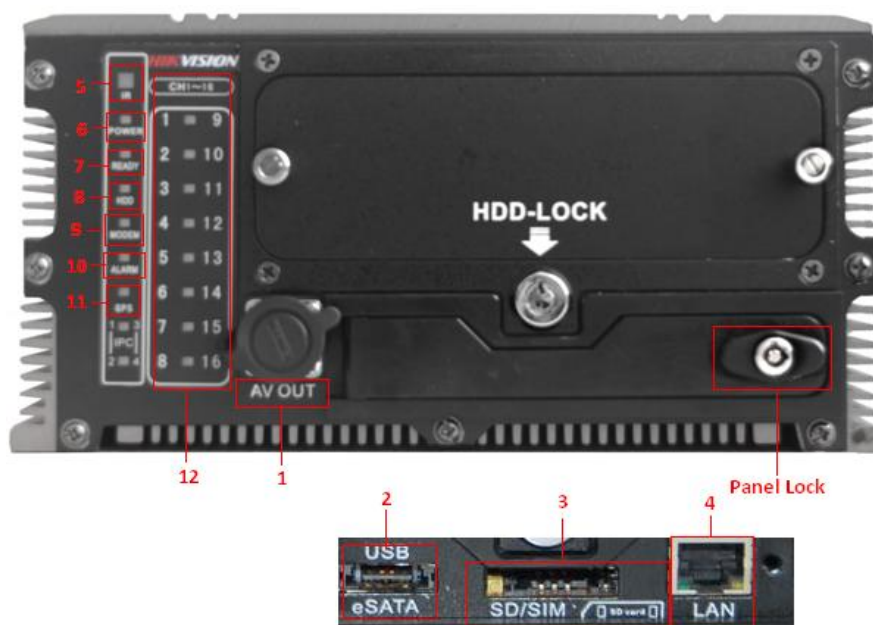


Figure 1. 1 Front Panel

The description of LED indicators and interfaces on front panel is shown in Table 1.1.

Note: After opening the panel lock, you can see the USB and eSATA interface, SD/SDHC card interface (reserved) and network interface.

Table 1. 1 Description of Interface and LED Indicator on Front Panel

No.	Name	Description
1	AV OUT	Video and audio output and voltage output and wire controller composite interface.
2	USB & eSATA	USB and eSATA composite interface.

3	SD/SIM	SD/SDHC card interface (reserved); SIM card interface.
4	LAN	Network interface.
5	IR Control receiver	Receiver for IR remote.
6	POWER indicator	Red means the device is standby, green means the DVR starts up normally.
7	READY indicator	Green means the device is in normal working status and can be controlled by remote control.
8	HDD indicator	Blinking red when data is being read from or written to HDD.
9	MODEM indicator	Turning off when there is no 3G signal or dialing is disabled. Green means there is 3G signal available.
10	ALARM indicator	Red means there are alarms.
11	GPS indicator	Turning off when there is no GPS module available. Green means there is 3G module available and blinking green means GPS positioning successfully.
12	CH1~16	One indicator shows the status of two channels. Green means the channel number marked in the left is in the recording status and red means that the channel number marked on the right is recording, and the light blinking red and green means both the two channels are recording. E.g.: Green means channel 1 is recording; Red means the channel 9 is recording; The mixture color of green and red means the channel 1 and channel 9 are recording simultaneously.

1.2.2 Rear Panel

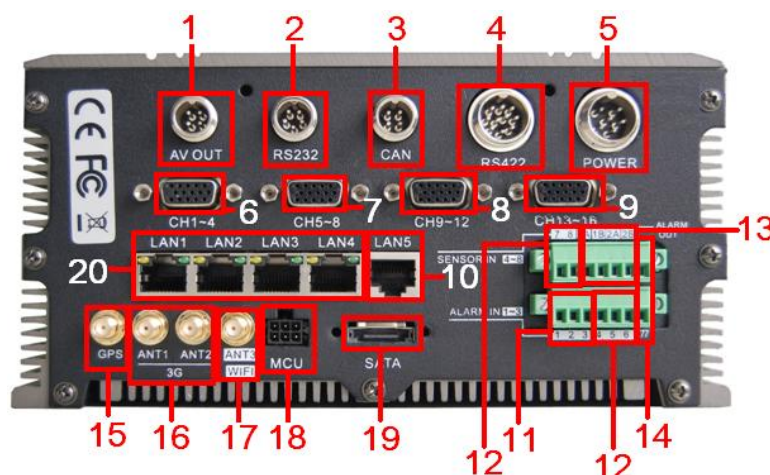



Figure 1. 2 Rear Panel

Table 1. 2 Description of Rear Panel

No.	Mark	Description
1	AV OUT	4-pin aviation plug for video output and audio composite output and voltage output.
2	RS232	5-pin aviation plug for RS-232 and voltage output.
3	CAN	Reserved. 4-pin aviation plug for collecting CAN bus data of vehicles.
4	RS422	10-pin aviation plug for RS-422 and voltage output.
5	POWER	6-pin aviation plug for voltage input and KEY startup interface.
6	CH1~4	DB15-to-aviation plug for audio and video composite input and voltage output of channel 1~4.
7	CH5~8	DB15-to-aviation plug for audio and video composite input and voltage output of channel 5~8.
8	CH9~12	DB15-to-aviation plug for audio and video composite input and voltage output of channel 9~12.
9	CH13~16	DB15-to-aviation plug for audio and video composite input and voltage output of channel 13~16.
10	LAN5	Network interface (reserved).
11	ALARM IN (1~3)	Connect to alarm input, triggered by high or low level.
12	SENSOR IN (4~8)	The input of driving information, triggered by high/low level. Channel 8 is reserved.
13	ALARM OUT (1A 1B 2A 2B)	Alarm (relay) output interface. 1A corresponds to 1B and 2A corresponds to 2B.
14		GND of alarm input and driving information input.
15	GPS	GPS antenna.
16	3G (ANT1 ANT2)	Master/slave 3G antenna.
17	WIFI (ANT3)	WiFi antenna.
18	MCU	Interface for device maintenance.
19	SATA	External SATA disk interface (reserved).
20	LAN (1~4)	Network interface with PoE function for network camera.

Note: the descriptions are subject to the physical product.

1.3 IR Remote Control Operations

The device may also be controlled with the included IR remote control, shown in Figure 1.3.



Figure 1. 3 Remote Control

The description of buttons on the remote control is shown in Table 1.3.

Table 1. 3 Description of the IR Remote Control Buttons

No.	Name	Description
1	Power	Reserved
2	DEV	Input device number.
3	Number keys	1.Input number, symbol, and character. 2.Switch to the corresponding channel in Live View mode.

4	Edit	1.Enter the edit status, and then delete the character in the front of the cursor. 2.It can also be used to <i>tick</i> checkbox. 3.In Playback mode, it can be used to generate video clips for backup.
5	A	Switch between input methods (Number, English, symbol) when in the edit status.
6	REC	Reserved
7	PLAY	Enter video search interface
8	INFO	Reserved
9	VOIP	Reserved
10	MENU	Enter Main menu interface.
11	PREV	Switch between single screen and multi-screen mode.
12	Direction keys	Up, Down, Left, Right 1.The DIRECTION buttons are used to navigate between different fields and items in menus. 2.In the playback interface, they are used for fast forward, slow forward, rewind. 3.In Live View mode, these buttons can be used to switch channel(s).
	ENTER	1. The ENTER button is used to confirm selection in any of the menu modes. 2. It can also be used to <i>tick</i> checkbox. 3. In Playback mode, it can be used to play or pause the video. 4. In Auto-switch mode, it can be used to stop /start auto switch.
13	PTZ	Reserved
14	ESC	Back to the previous menu.
15		Reserved
16	F1	In video search interface, it can be used to select all record files.
17	Lens Control	Reserved
18	F2	Reserved

Troubleshooting Remote Control:

Note: Make sure you have installed batteries properly in the remote control. And you have to aim the remote control at the IR receiver in the front panel.

If there is no response after you press any button on the remote, follow the procedure below to troubleshoot.

Steps:

1. Run the Client Management System to check and remember device ID#.
2. The default ID# is 255. This ID# is valid for all the IR remote controls.
3. Press the DEV button on the remote control.
4. Enter the device ID# from step 2.
5. Press the ENTER button on the remote.

If the Status indicator on the front panel turns blue, the remote control is operating properly. If the Status indicator does not turn blue and there is still no response from the remote, please check the following:

1. Batteries are installed correctly and the polarities of the batteries are not reversed.
2. Batteries are fresh and not out of charge.
3. IR receiver is not obstructed.

If the remote still can't function properly, please change a remote and try again, or contact the device provider.

1.4 Starting Up and Shutting Down the DVR

There are two ways to start up DVR: Startup with vehicle ignition and time-delay shutdown, and auto on/off.

1.4.1 Vehicle ignition startup

There are two kinds of vehicle ignition switch: positive pole ignition switch and negative pole ignition switch. For detailed time-delay shutdown, please refer to *Chapter 6.1*.

Note:

1. Please contact the vehicle manufacturer for the information about the connecting mode of starting switch.
2. Positive pole ignition switch is used by most cars.

Positive pole ignition switch

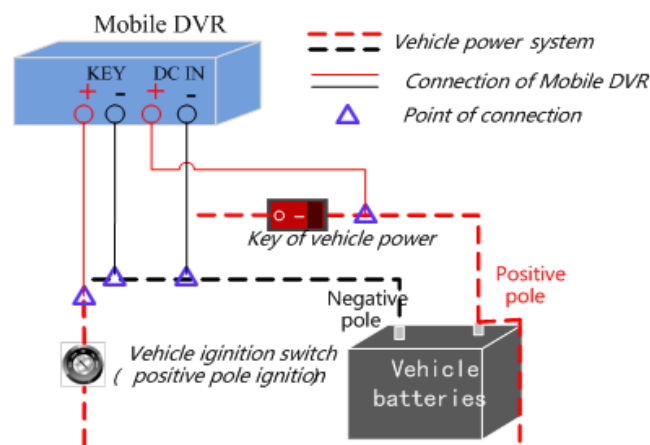


Figure 1. 4 Positive Pole Ignition Switch

Ignition switch is connected to the positive pole of DC+12/24V of vehicle batteries. Please make sure that the

connection is correct, and then follow the procedure below:

Steps:

1. Connect the “DC IN +” of DVR to the positive pole of vehicle batteries;
 2. Connect the “DC IN -” and “KEY -” to the negative pole of vehicle batteries;
 3. Connect the “KEY +” of DVR to the vehicle ignition switch;
 4. Lock the hard disk;
- Note:** The hard disk lock is locked when keyhole is upward and open when keyhole is leftward.
5. When switching on the vehicle, the DVR starts up with the vehicle.

Negative pole ignition switch

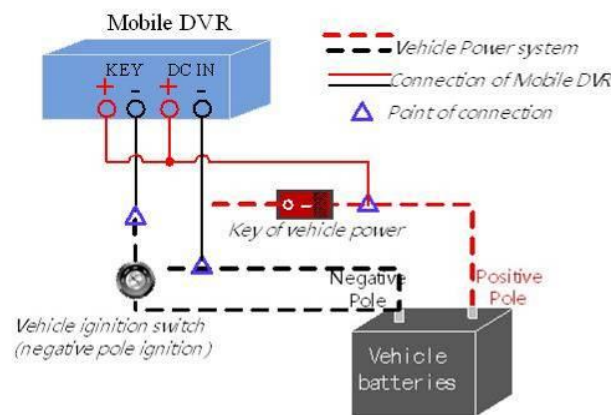


Figure 1. 5 Negative Pole Ignition Switch

Ignition switch is connected to the negative pole of DC+12/24V of vehicle batteries. Please make sure that the connection is correct, and then follow the procedure below:

Steps:

1. Connect the “DC IN +” and “KEY +” of DVR to the positive pole of vehicle batteries;
 2. Connect the “DC IN -” to the negative pole of vehicle batteries;
 3. Connect the “KEY -” of DVR to the vehicle ignition switch;
 4. Lock the hard disk;
- Note:** The hard disk lock is locked when keyhole is upward and open when keyhole is leftward.
5. When switching on the vehicle, the DVR starts up with the vehicle.

1.4.2 Auto On/Off

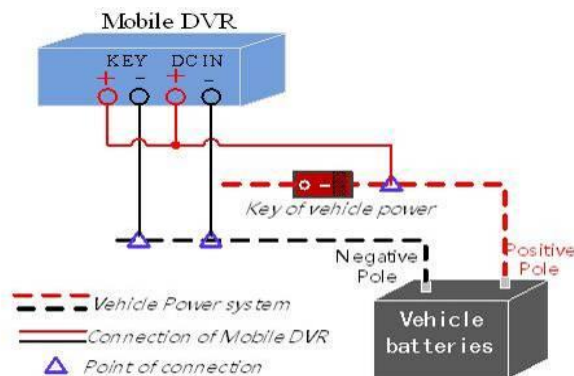


Figure 1. 6 Auto On/Off

Please follow the procedure below:

Steps:

1. Connect the “DC IN +” and “KEY +” of DVR to the positive pole of vehicle batteries;
2. Connect the “DC IN -” and “KEY -” of DVR to the negative pole of vehicle batteries;
3. Lock the hard disk;

Note: The hard disk lock is locked when keyhole is upward and open when keyhole is leftward. For detailed information, please see *Chapter 6.1*.

1.5 Connecting to Alarm Input / Output Device

Connecting to Alarm Input

DS-8100HMFI-TH series Mobile DVR adopts the high/low-level electrical signals triggering (high level: 6~36 VDC; low level: 0~5 VDC) to realize alarm input. And in order to avoid error report caused by voltage fluctuation, no alarm will be triggered by voltage ranging of 5~6VDC. Alarm input and Mobile DVR must be with common grounding.

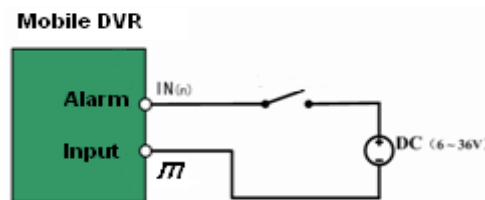


Figure 1. 7 Alarm Input Connection

Connecting to Alarm Output

The contact closure signal is used for the alarm output triggering. When there is an alarm output triggered, the

contact A and B of the Alarm Output will be closed. Therefore, the active alarm device must be connected.

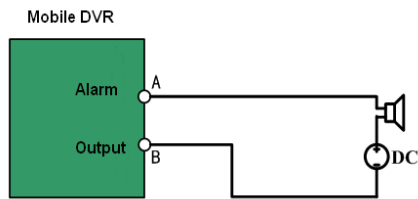


Figure 1. 8 Alarm Output Connection

Please follow the procedure below:

Steps:

1. Disconnect *pluggable block* from the ALARM IN /ALARM OUT terminal block.;
2. Unfasten stop screws from the pluggable block, insert signal cables into slots and fasten stop screws. Ensure signal cables are in tight;
3. Connect *pluggable block* back into terminal block.

1.6 Hard Disk Installation

Notes:

1. A factory recommended HDD should be used for this installation.
2. After installation, please initialize the HDD before recording. Please refer to *Chapter 3.1.1* for detailed information.
3. Please disconnect the power before and during the hard disk installation.

Steps:



1. Prepare the tools required: 2.5-inch hard disk, anti-static gloves, key to hard disk lock, screwdriver and screws.



2. Insert the key and turn in counterclockwise direction to open the hard disk lock (the hard disk lock is locked when keyhole is upward and unlocked when keyhole is leftward), unfasten the screws counterclockwise and pull out the hard disk box.



3. Wear the anti-static gloves and insert the first hard disk into the hard disk box with the PCB side downward. There are two hard disk slots and please insert the first disk into the bottom slot.



4. Make sure the hard disk is flat and insert the disk into the slot tightly.



5. Insert the second hard disk into the hard disk box with the PCB side upward.



6. Insert the hard disk into the slot tightly.



7. Fasten the screws with the order shown in the figure to fix the two disks separately.



8. After installation, push the hard disk box back into the DVR, fasten the screws and lock the hard disk lock with the key.

1.7 SIM / SD Card Installation

Please insert a SIM card to access to the 3G network. The SD card slot (reserved) is located above the SIM card slot.

Steps:



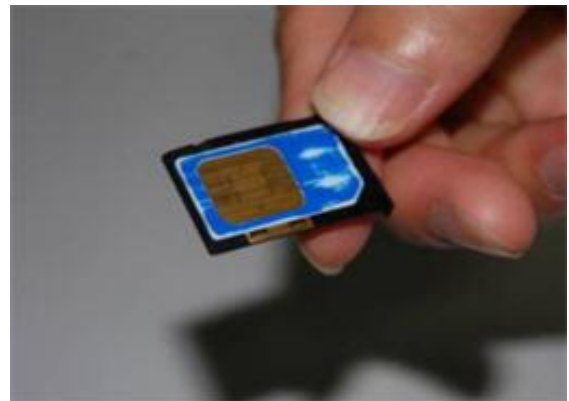
1. Use the key to open the front panel lock and you can see SD/SIM card slot.



2. Shut down the DVR. The SIM card slot is marked in red and the SD card slot marked in blue. If you want to install the SD card, please insert the SD card into the SD card slot with the sheet metal side upward.



3. Press the yellow release button on the left side to get access to the SIM card holder.



4. Pull out the SIM card holder and insert the SIM card.



5. Push the SIM card holder back into the slot with the SIM card downward.



6. Lock the front panel and connect the two 3G antennas to receive the signal.

Chapter 2

Basic Operations

2.1 Main Menu

The main menu is shown in Figure 2.1.

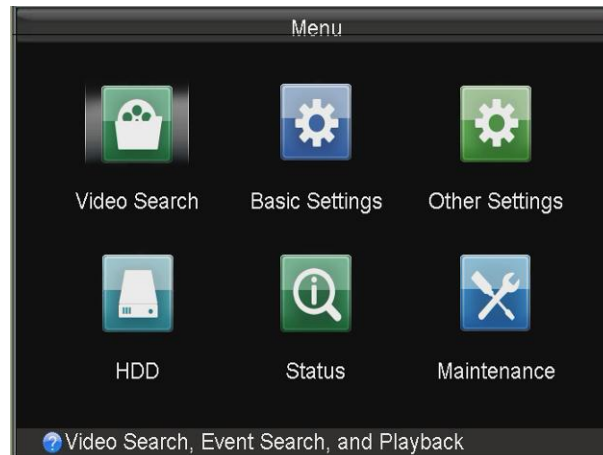


Figure 2. 1 Main Menu

2.2 Managing User Accounts

There is a default account in the device: *Administrator*. The *Administrator* user name is *admin* and the password is *12345*. The *Administrator* has the permission to add and delete user and configure user parameters.

Steps:

1. Enter the User Management interface.

Menu>Other Settings>User

2. Click the **Add** button to enter the Add user interface.

The image shows a 'Add' user interface window. It has a title bar that says 'Add'. Inside, there are four input fields: 'User Name', 'Password', 'Confirm', and 'Level'. The 'Level' field is a dropdown menu currently showing 'Guest'. Below these fields is a text box containing the text 'Permission: preview, playback, backup, log query'. At the bottom right of the window are two buttons: 'OK' and 'Cancel'.

Figure 2. 2 Add User Interface

3. Enter the information for new user, including **User Name**, **Password** and **Level**.

Level: Set the user level to Operator or Guest. Different user levels have different operating permission.

- **Operator:** The *Operator* user has permission of Preview, Playback, Backup, Log Search and Parameters Settings.

- **Guest:** The Guest user has permission of Preview, Playback, Backup and Log Search.

4. Click the **OK** button to save the settings and go back to the User Management interface.
5. You can click the **Delete** button to delete the selected user and click the **Modify** button to modify the user information.

2.3 Configuring General Settings

Purpose:

You can configure the language, CVBS output standard, system time, etc.

Steps:

1. Enter the General Settings interface.

Menu>Other Settings>General

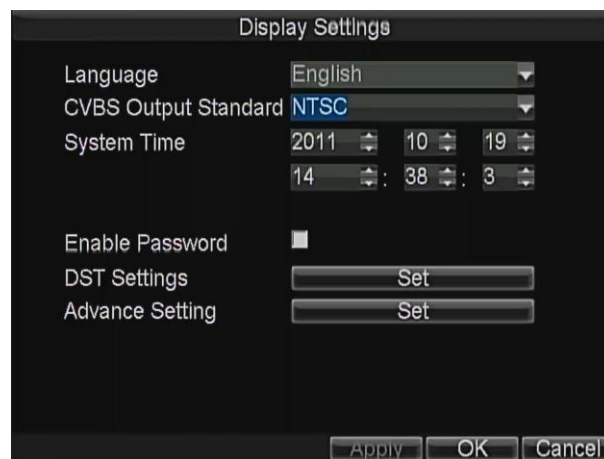


Figure 2. 3 General Settings Interface

2. Configure the following settings:

- **Language:** The default language used is *English*.
- **CVBS Output Standard:** Select the CVBS output standard to NTSC or PAL, which must be the same with the video input standard.
- **System Time:** Select the system time.
- **Enable Password:** Enable/disable the requirement of the login password.

3. Click the **Set** button for **DST Settings** to enter the **DST** settings interface, as shown in Figure 2.4. You can check the **Enable DST** checkbox, and then you choose the date of the DST period. After configuration, click **Apply** button to save the settings and click **OK** button to return to the **General Settings** interface.

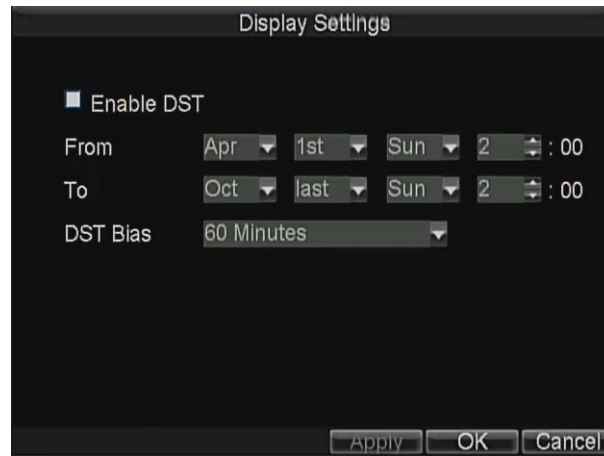


Figure 2. 4 DST Settings Interface

4. Click the **Set** button for **Advance Setting** to enter the advanced display settings interface, as shown in Figure 2.5.



Figure 2. 5 Advanced Display Settings Interface

5. Configure the following settings:

- **Device Name:** Edit the name of device.
- **Device No:** Edit the serial number of device. The Device No. can be set in the range of 1~255, and the default No. is 255.
- **Brightness of CVBS:** Adjust the video output brightness.
- **Menu Transparency:** Adjust the transparency of the menu.
- **Operation Timeout:** Set timeout time for menu inactivity. E.g., when the timeout time is set to *5 Minutes*, then the system will exit from the current operation menu to live view screen after 5 minutes of menu inactivity.

Note: It is not recommended to modify the **Device No.** You need to enter the **Device No** on the remote control every time you use it if you modify the **Device No.**

6. Click the **Apply** button to save the settings.

2.4 Configuring Cameras

Purpose:

You can configure the OSD (On-screen Display) settings for the camera, including camera name, date/time, etc.

Steps:

1. Enter the Camera Settings interface, as shown in Figure 2.6.

Menu>Other Settings>Camera



Figure 2. 6 Camera Settings Interface

2. Select the camera to configure the OSD settings.
3. Edit the **Camera Name** in the text field.
4. Configure the Display **Camera Name**, **Display Date** and **Display Week** by clicking the checkbox.
5. Select the **Date Format**, **Time Format** and **OSD Property**.
6. Click the **OSD Position** button and use the F2 key and direction keys on remote control to adjust the OSD position.
7. Click the **Set** button for **More Setting** to configure the video parameters, mask area, motion detection, etc.

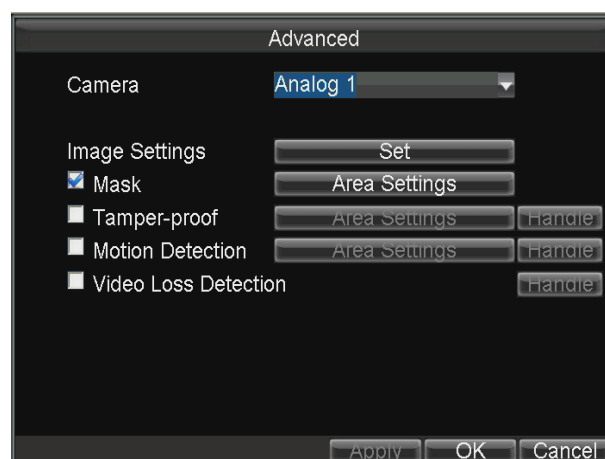


Figure 2. 7 More Setting Interface

- **Image Settings:**

Click **Set** button for **Image Settings** to adjust the video parameters, including Brightness, Contrast, Saturation and Hue.



Figure 2. 8 Image Settings Interface

- **Mask:**

You are allowed to configure the privacy mask zones that cannot be viewed and recorded by the operator. Check the checkbox before **Mask** and click the **Area Settings** button for **Mask** to set the mask areas. Please follow the procedure below to set the areas:

Steps:

- 1) Press the **Edit** key on the remote control and a red block appears on the screen.
- 2) Press the **Direction** key on the remote control to adjust the position of the red block.
- 3) Press the **Enter** key on the remote control to save the position of the red block.
- 4) Press the **Direction** key on the remote control to adjust the size of the block and press **Enter** key to save the setting.

Note: Press the **A** button on the remote control to clear all the mask areas and up to 4 areas can be configured for each channel.

- **Tamper-proof Detection:**

Trigger alarm when the lens is covered and take alarm response action(s). For detailed information, please see *Chapter 7.2.3*.

- **Motion Detection:**

Once a motion detection event takes place, the device can analyze it and do many actions to handle it. For detailed information, please refer to *Chapter 3.2*.

- **Video Loss Detection:**

Detect video loss of a channel and take alarm response action(s). Please see *Chapter 7.2.4* for detailed information.

2.5 Configuring Display Settings

Purpose:

Display settings can be customized according to different needs. You can configure the preview mode, dwell time for

screen to be shown, mute or turning on the audio, etc.

Steps:

1. Enter the Display Settings interface, as shown in Figure 2.9.

Menu>Other Settings>Display



Figure 2. 9 Display Settings Interface

2. The settings available in this menu include:

- **Preview Mode:** Designates the display mode to be used for preview.
- **Dwell Time:** The time in seconds to *dwell* between switching of channels when enabling auto-switch in preview.
- **Enable Audio Output:** Enables/disables audio output for the selected video output.

3. Click the **Set** button to set the camera order, as shown in Figure 2.10.



Figure 2. 10 Camera Order

4. Select the screen you want to set. Press **Enter** key and **Direction** keys on the remote control to select the channel you want to display. Setting an 'X' means the channel will not be displayed. Click **OK** button to save the settings and exit.

Chapter 3

Record Settings

3.1 Configuring Encoding Parameters

3.1.1 Initializing HDDs

Before recording, make sure that the HDD has already been installed. If not, please install a HDD and initialize it.

Steps:

1. Enter the HDD Management interface, as shown in Figure 3.1.

Menu>HDD



Figure 3. 1 HDD Management Interface

2. Select HDD to be initialized. If the hard disk is installed correctly and formatted, the status is normal or sleeping.
3. Set the **Overwrite** to **Yes** or **No**.

Note: By default the overwriting function is enabled. If you set the **Overwrite** to **No**, the recording stops when the hard disk is full.

4. You can also check the information by viewing S.M.A.R.T information.

3.1.2 Configuring Record Settings

Purpose:

You can configure the transmission stream type, the resolution, frame rate, etc.

Steps:

1. Enter the Record Settings interface, as shown in Figure 3.2.

Menu>Basic Settings>Record

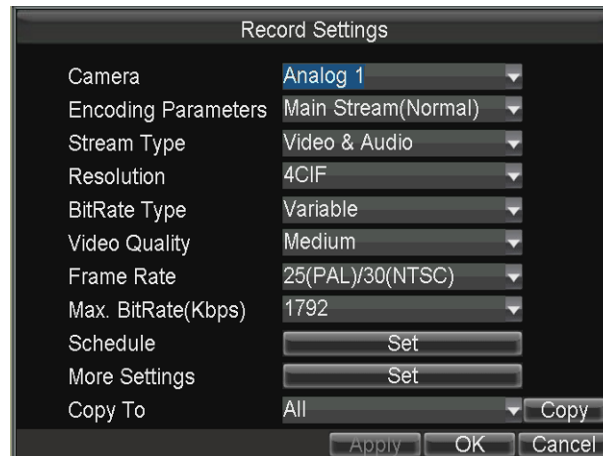


Figure 3. 2 Record Settings Interface

2. Select the channel to set the parameters.

3. Configure the following settings:

- **Encoding Parameters:**

Main Stream (Normal), **Main Stream (Event)** and **Sub Stream** options are available. **Main Stream (Normal)** is used for schedule recording; **Main Stream (Event)** is used for event recording; **Sub Stream** is used for network transmission.

- **Stream Type:**

Video and **Video & Audio** options are available.

- **Resolution:**

You can select **4CIF**, **DCIF**, **2CIF**, **CIF** or **QCIF**.

Note: The resolution of main stream cannot be lower than that of sub stream.

- **Bitrate Type:**

Variable and **Constant** options are available

- **Video Quality:**

If you set the **Bitrate Type** to **Variable**, you can select the video quality, including **Highest**, **Higher**, **Medium**, **Low**, **Lower** and **Lowest**.

- **Frame Rate:**

You can set the FPS (frames per second). 1/16, 1/8, 1/4, 1/2, 1, 2, 4, 6, 8, 10, 12, 15, 16, 18, 20, 22 and 25 (PAL) / 30 (NTSC) options are available.

4. Click the **Set** button for **Schedule** to enter the record schedule interface, as shown in Figure 3.3.

1) Select the check box for the **Enable Schedule** item.

2) You can choose the day to which you want to set schedule.

3) To schedule an all-day recording, check the checkbox for the **All Day** item.

4) To arrange other schedule, leave the **All Day** checkbox blank and set the time period.

5) The **Type** can be set as **Normal**, **Motion Detection**, **Alarm**, **Motion | Alarm**, **Motion & Alarm**. Please refer

to Chapter 3.2 & 3.3 for motion and alarm recording.

- 6) Click the **OK** button to save the settings and exit.

Note: Up to 8 periods can be configured for each day. And the time periods can't be overlapped each other. You can enter the Record Status interface (Menu>Status>Record) to check the recording status.

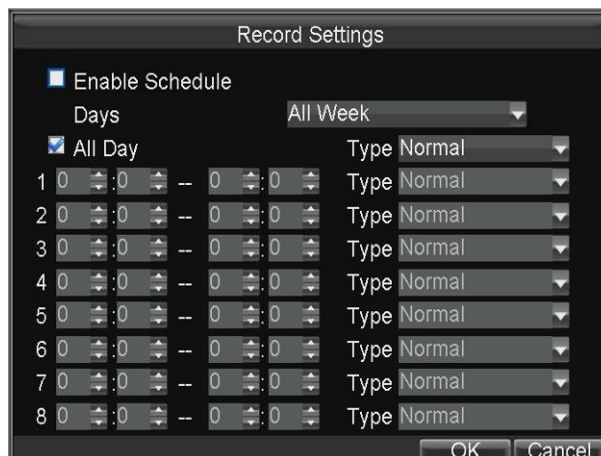


Figure 3. 3 Record Schedule Interface

5. Click the **Set** button for **More Settings** to configure the pre-record and post-record. Click the **OK** button to save the settings and exit.

Pre-record: The time you set to record before the scheduled time or event. For example, when an alarm triggered the recording at 10:00, if you set the pre-record time as 5 seconds, the camera records it at 9:59:55.

Post-record: The time you set to record after the event or the scheduled time. For example, when an alarm triggered the recording ends at 11:00, if you set the post-record time as 5 seconds, it records till 11:00:05.

6. If the settings can also be set to other channels, click **Copy**.

3.2 Configuring Motion Detection Record

Purpose:

In the live view mode, once a motion detection event takes place, the device can analyze it and do many actions to handle it. In this chapter, you can follow the steps to schedule a record which triggered by the detected motion.

Steps:

1. Enter the Advanced Camera Settings interface.

Menu>Other Settings>Camera>Set (for **More Setting**)

2. Check the checkbox before **Motion Detection** and click the **Area Settings** button for **Motion Detection** to set the areas for motion detection.

Steps:

- 1) Press the **Edit** key on the remote control and a red block appears on the screen.
- 2) Press the **Direction** key on the remote control to adjust the position of the red block.
- 3) Press the **Enter** key on the remote control to save the position of the red block.

- 4) Press the **Direction** key on the remote control to adjust the size of the block and press **Enter** key to save the setting.
 - Note:** You can press the **A** button on the remote control to clear all the mask areas.
 - 5) Press the **Menu** key on the remote control to set sensitivity. You can set the level from 1 to 6, and off is also selectable. Click the **OK** button to save and exit.
 - 6) Press the **Enter** key on the remote control to save the settings and then press **ESC** key to exit.
3. Click the **Handle** button for **Motion Detection** to set arming schedule and alarm response actions, as shown in Figure 3.4.

Alarm response actions:

- **Pop-up Image on Monitor:**

When an alarm is triggered, the local monitor displays in full screen the video image from the alarming channel configured for full screen monitoring.

- **Audio Warning:**

Trigger an audible *beep* when an alarm is detected.

- **Trigger Alarm Output:**

Trigger an alarm output when an alarm is triggered. Please refer to *Chapter 7.2.2* for alarm output settings.

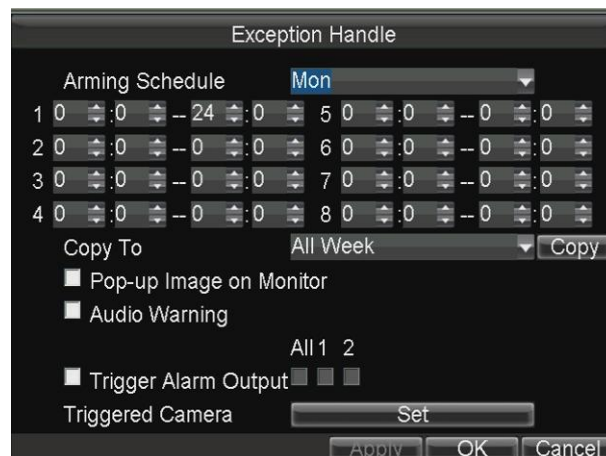


Figure 3. 4 Motion Detection

4. Click the **Set** button for **Triggered Camera** to select the channel to be triggered.
5. After configuration of motion detection, enter the Record Settings interface to set motion detection record. Please see *Chapter 3.1.2* for record settings (set the **Type** to motion detection).

3.3 Configuring Alarm Triggered Record

Purpose:

Follow the procedure to configure alarm triggered recording.

Steps:

1. Enter the Alarm Input settings interface, as shown in Figure 3.5.

Menu>Other Settings>AlarmIn

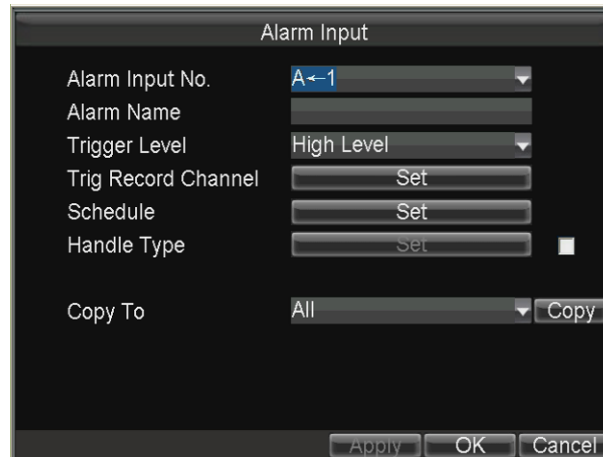


Figure 3. 5 Alarm Input Settings

2. Click the **Set** button for **Trig Record Channel** to select the alarm triggered recording channel(s). Click the **Apply** button to save the settings and click **OK** to exit. For other alarm input configuration, please see *Chapter 7.2.1*.
3. After configuring alarm input, enter the Record Settings interface to set alarm triggered record. Please see *Chapter 3.1.2* for record settings (set the **Type** to alarm, motion | alarm or motion & alarm).

3.4 Searching Record Files

Purpose:

Search and play back record files by setting the searching restriction of recording type and recording time.

Steps:

1. Enter the Video Search interface, as shown in Figure 3.6.

Menu>Video Search

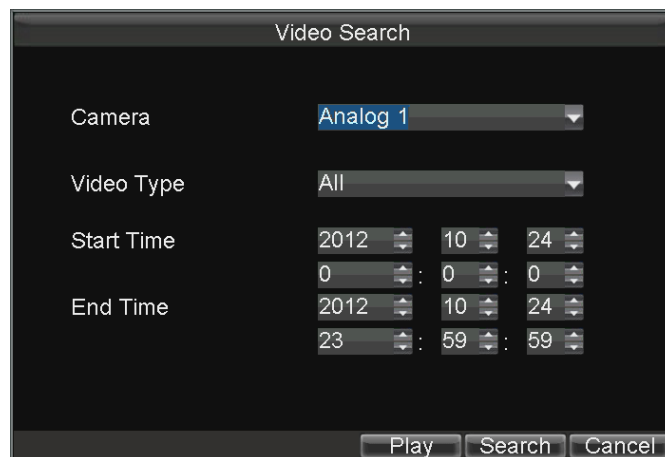


Figure 3. 6 Video Search Interface

2. Set search conditions and click the **Play** button to enter the Playback interface.

Note: When more than 4000 recorded files are found, the top 4000 items have the priority to be played back. The playback speed can be adjusted by pressing the **Up** and **Down** keys on the remote control.

3. Set search condition and click **Search** button to enter the Search Result interface, as shown in Figure 3.7. Choose a record file you want to play back.



Figure 3. 7 Search Result Interface

Note:

- 1) Select the record file by pressing the **Up** and **Down** keys on the remote control.
- 2) Check the record file by pressing the **Enter** key on the remote control.
- 3) Click the **Play** button to play back the checked record file.
- 4) Click the **Export** button to export the checked record file. Before exporting, please connect a USB device with the DVR.

Chapter 4

Wireless Network Settings

4.1 Configuring 3G

Purpose:

Set the parameters for 3G before using it.

Steps:

1. Enter the Dial Settings interface, as shown in Figure 4.1.

Menu>Basic Settings>Dial

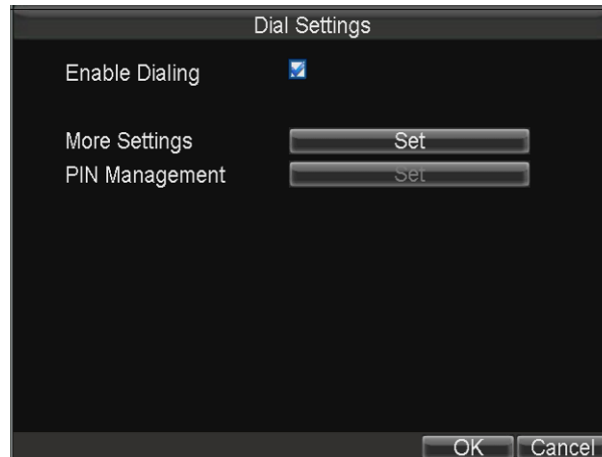


Figure 4. 1 Dial Settings Interface

2. Check the checkbox for **Enable Dialing**.
3. If you want to connect to 3G VPDN private network, please click the **Set** for **More Settings** to configure private network parameters, as shown in Figure 4.2.

Note: Please contact the network operator for private network parameters; PIN management is reserved.

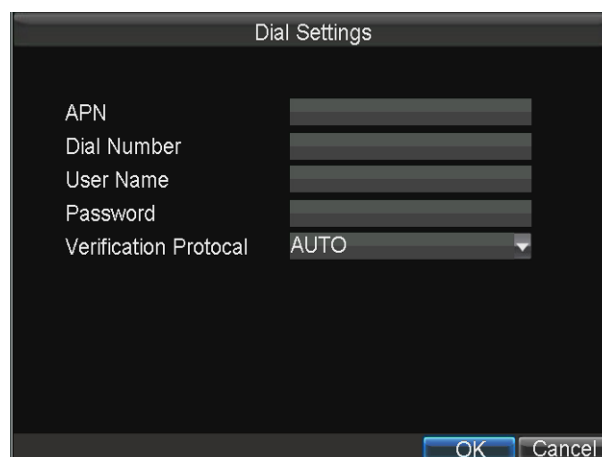


Figure 4. 2 Private Network Settings Interface

4. After configuration, you can check the dial status in the Dial Status interface (Menu>Status>Dial).

4.2 Configuring WiFi

Purpose:

Set the parameters for WiFi before using it.

Steps:

1. Enter the WiFi Settings interface, as shown in Figure 4.3.

Menu>Basic Settings>WiFi

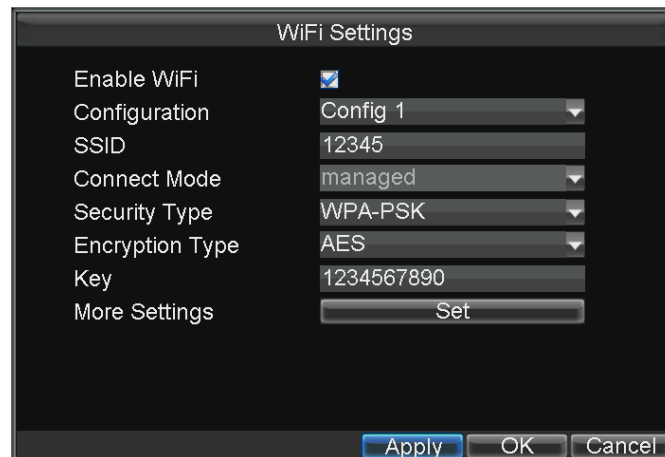


Figure 4. 3 WiFi Settings Interface

2. Check the checkbox for **Enable WiFi**. Configure the configuration file, SSID, security type, encryption type and key.

Note: Five configuration files are available and one SSID can be inputted for each file.

3. Click the **Set** button for **More Settings** to set the IP address and DNS server for WiFi, as shown in Figure 4.4.

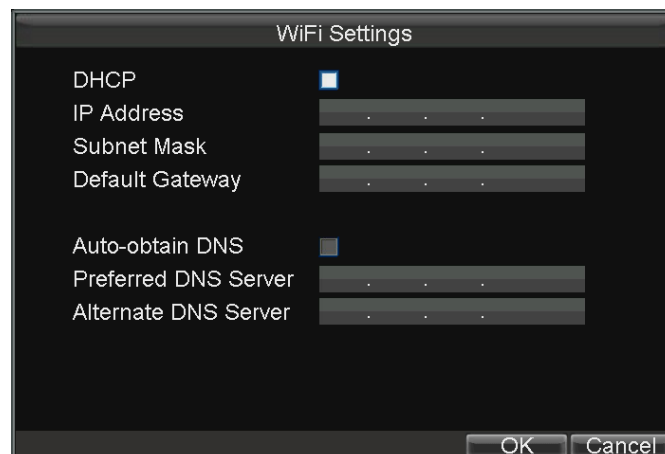


Figure 4. 4 IP & DNS Settings for WiFi

Note: Check the checkbox for **DHCP** and **Auto-obtain DNS** to automatically obtain IP address and DNS server for WiFi.

4. After setting, you can check the status of WiFi in the WiFi Status interface (Menu>Status>WiFi), as shown in

Figure 4.5.

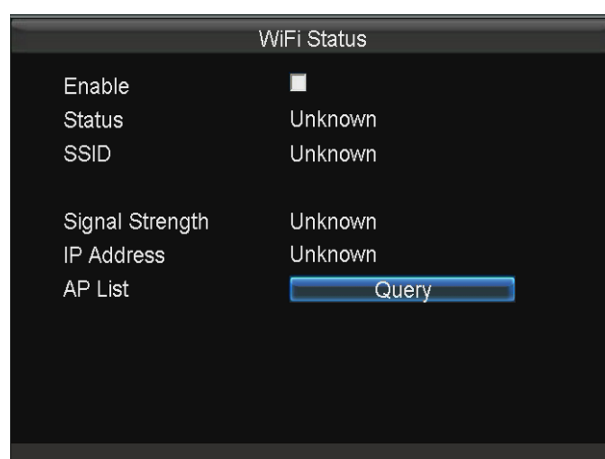


Figure 4. 5 WiFi Status Interface

-
5. Click the **Query** button to search the available access point information of WiFi, including SSID, Security Type and Signal Strength, as shown in Figure 4.6.

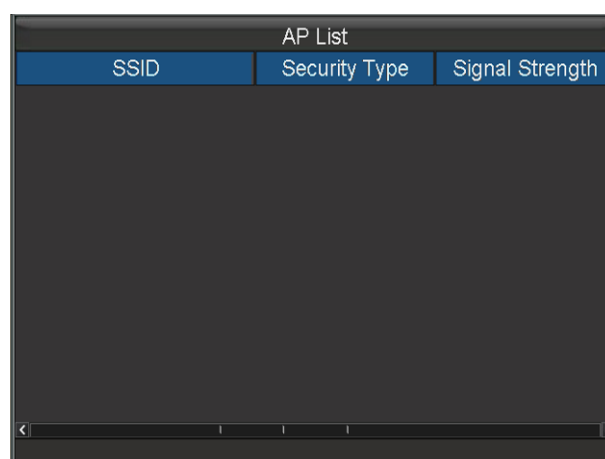


Figure 4. 6 AP List

Chapter 5

Platform Settings

The Mobile DVR can be remotely accessed via 3 platforms: WVS platform, iVMS platform and Push Mode platform. Make sure the parameters configured are valid for the platform you select for login.

5.1 Accessing by the WVS Platform

Steps:

1. Enter the Platform Settings interface.

Menu>Basic Settings>Platform

2. Select **Platform WVS** in **Select Platform**, as shown in Figure 5.1.

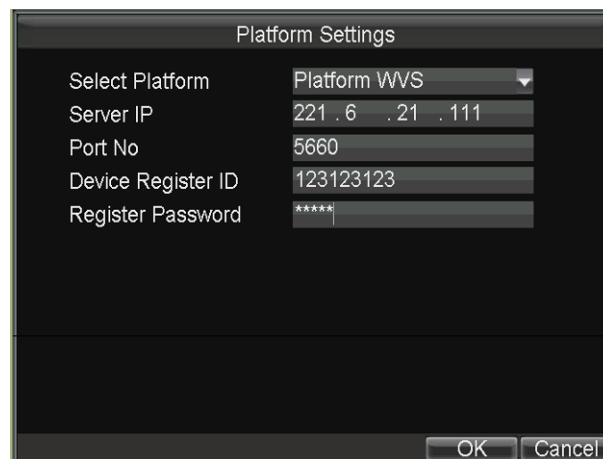
The screenshot shows a 'Platform Settings' dialog box. It contains five input fields: 'Select Platform' (a dropdown menu showing 'Platform WVS'), 'Server IP' (text '221 . 6 . 21 . 111'), 'Port No' (text '5660'), 'Device Register ID' (text '123123123'), and 'Register Password' (text '*****'). At the bottom right are 'OK' and 'Cancel' buttons.

Figure 5. 1 WVS Platform Settings

3. Configure the following parameters:

Server IP: Input the static WAN IP of WVS server.

Port No: The same as the client port of server, the default value is 5660.

Device Register ID and **Register Password:** The ID and password of the Mobile DVR registered in the manage system of WVS. The ID should start with “1”, and with length of 9 numbers. You need to register the ID and password for the device in the WVS platform before using.

4. After configuration, you can enter the Platform Status interface (Menu>Status>Plat) to check the status of WVS platform.

5.2 Accessing by the iVMS Platform

Steps:

1. Enter the Platform Settings interface.

Menu>Basic Settings>Platform

2. Select **Platform iVMS** in **Select Platform**, as shown in Figure 5.2.

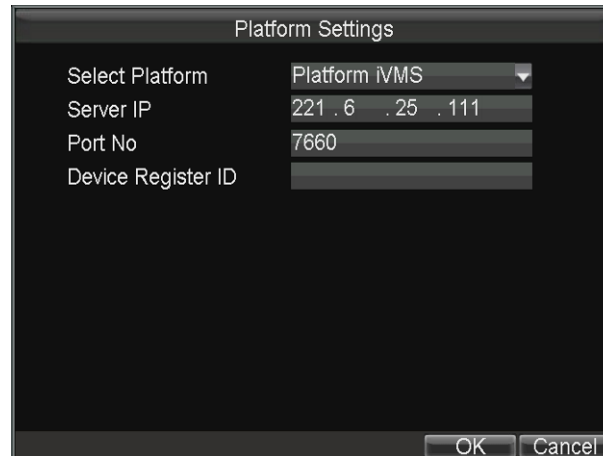


Figure 5.2 iVMS Platform Settings

3. Configure the following settings:

Server IP: Input the static WAN IP of iVMS center server.

Server Port: Connecting port between DVR and center server, the default value is 7660.

Device Register ID: The ID registered in the iVMS. You need to register an ID for the device in the iVMS platform before using.

4. After setting, you can check the status of iVMS platform in the Platform Status interface (Menu>Status>Plat).

5.3 Accessing by the Push Mode Platform

If you want to integrate the push mode platform and the Mobile DVR, SDK and development support are provided. Enter the Platform Settings interface (Menu> Basic Settings>Platform), select **3G_SDK** in **Select Platform**, as shown in Figure 5.3.

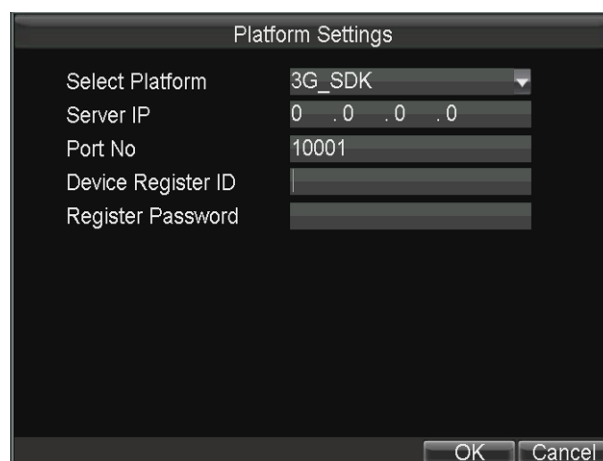


Figure 5.3 Push Mode Platform

Chapter 6

Special Functions

6.1 Configuring Startup and Shutdown

Purpose:

There are two ways to start up and shut down the Mobile DVR. You can set the delay time to shut down the DVR or set the time to automatically start up and shut down the DVR.

- Time-delay shutdown:

Steps:

1. Enter the Start Control interface, as shown in Figure 6.1.

Menu>Basic Settings>Start

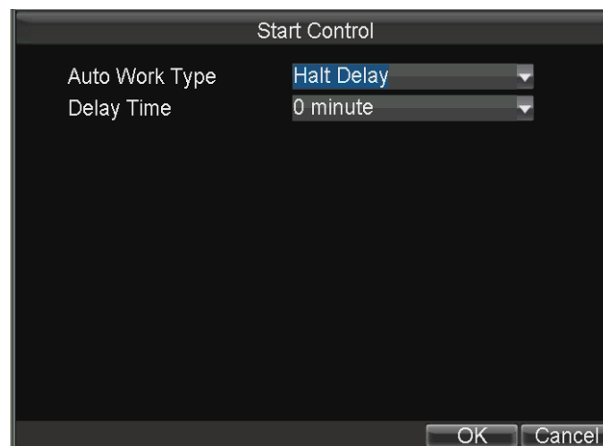


Figure 6. 1 Start Control Interface-Halt Delay

2. Select **Halt Delay** in **Auto Work Type** and set the delay time from 0 min to 6 hours.

- Auto on/off:

Steps:

1. Enter the Start Control interface, as shown in Figure 6.2.

Menu>Basic Settings>Start

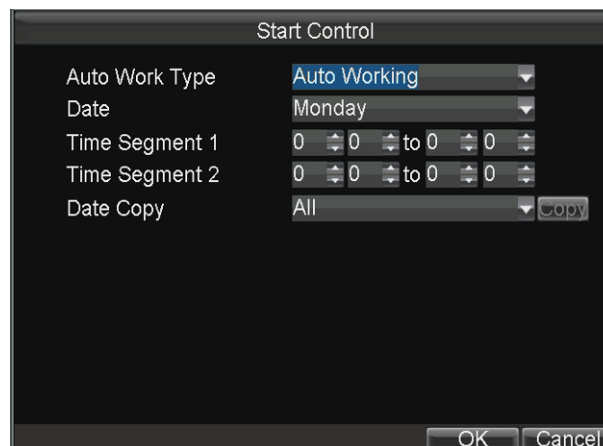


Figure 6. 2 Start Control Interface-Auto Working

2. Select **Auto Working** in **Auto Work Type**.
3. Choose the day you want to set schedule for automatically starting up and shutting down.

Note: Two periods can be configured for each day. And the time periods can't be overlapped each other. If the schedule can also be set to other days, click **Copy**.

6.2 Configuring GPS

Purpose:

GPS is mainly used for positioning and speed limit alarm.

Steps:

1. Enter the GPS Settings interface, as shown in Figure 6.3.

Menu>Basic Settings>GPS

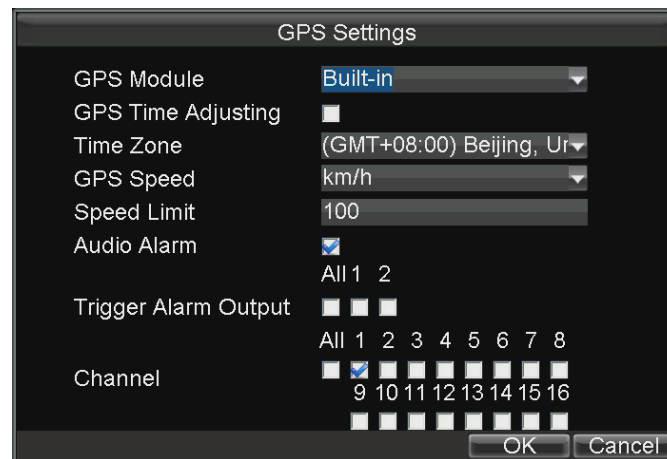


Figure 6. 3 GPS Settings Interface

2. You can select **GPS Module**, check **Start GPS Time Adjusting** and choose **Time Zone** and **GPS Speed**.

There are four options in **GPS Module**, including RS232, RS485, Built-in and Display Terminal.

- **RS232:** Obtain data from the GPS module connected through RS232 interface.
- **RS485:** Obtain data from the GPS module connected through RS485 interface.
- **Built-in:** Obtain data from the GPS module built in Mobile DVR.
- **Display Terminal:** Obtain data from the intelligent display terminal.

3. Input the **Speed Limit** and set actions to handle speeding. **Audio Alarm** and **Trigger Alarm Output** are available. Please see *Chapter 7.2.2* for alarm output configuration.
4. You can check the checkbox for **Channel** to display the GPS information on the corresponding channel(s).
5. Click the **OK** button to save the settings and exit.

Note: You can check the status of GPS in GPS Status interface (Menu>Status>GPS). The channel number varies according to the different devices.

6.3 Configuring G-Sensor

Purpose:

G-Sensor is used for storing the acceleration information of triaxial directions during driving.

Before you start:

You need to connect an external sensor to the device for obtaining and providing the acceleration information of triaxial directions.

Steps:

1. Enter the G-Sensor Settings interface, as shown in Figure 6.4.

Menu>Basic Settings>G-Sensor

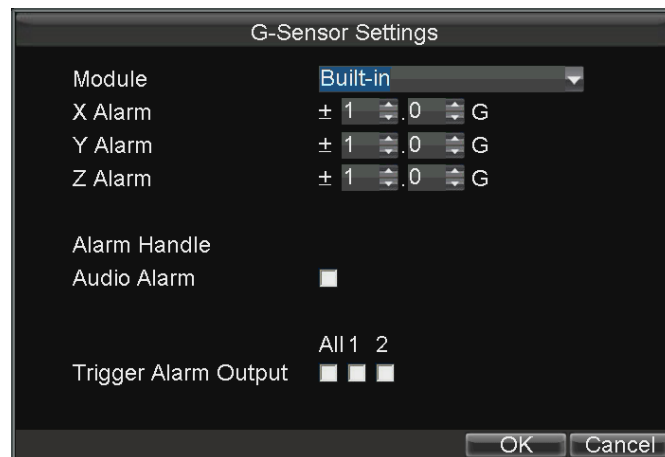


Figure 6. 4 G-Sensor Settings Interface

2. Select the **Module** and set the alarm value for X Alarm, Y Alarm and Z Alarm.

Note: X, Y and Z represent the direction of acceleration and G ($G=9.8 \text{ m/s}^2$) is the unit of alarm value.

3. Configure the actions to handle the exception. **Audio Alarm** and **Trigger Alarm Output** are available. Please see Chapter 7.2.2 for alarm output configuration.

4. Click the **OK** button to save the settings and exit.

Note: The status of G-Sensor can be checked in G-Sensor Status interface (Menu>Status>G-Sensor).

6.4 Configuring Sensor-In

Purpose:

Sensor-In can be used for collecting driving information of the vehicle, including pedal braking, turning left/right, reversing, etc.

Before you start:

You need to connect an external traveled recorder to the device for obtaining and providing the driving information of the vehicle.

Steps:

1. Enter the Sensor-In Settings interface, as shown in Figure 6.5.

Menu>Basic Settings>Sensor-In

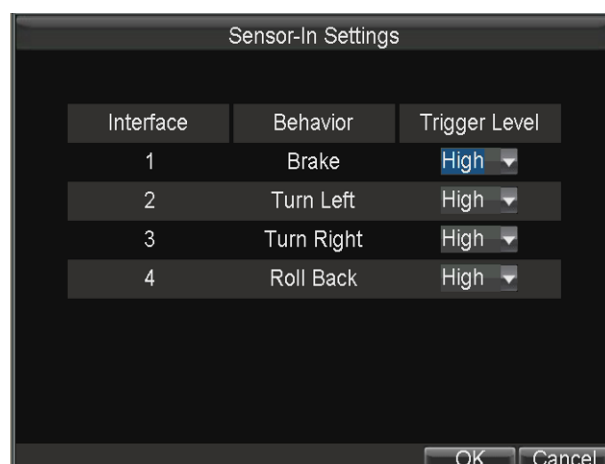


Figure 6. 5 Sensor-In Settings Interface

2. Sensor-In is triggered by high/low level and you can set the parameters according to the vehicle.

Chapter 7

Other Functions

7.1 Configuring Network Settings

Purpose:

Network settings must be properly configured before you operate the Mobile DVR over network.

Steps:

1. Enter the Network Settings interface, as shown in Figure 7.1.

Menu>Basic Settings>Network

Figure 7. 1 Network Settings Interface

2. Configure the following settings, including IP Address, Subnet Mask, Default Gateway, DNS Server and Download Server IP. Download Server IP should be set when uploading record files to the designate server.
3. Click the **Set** button for **NTP** to configure the NTP server, as shown in Figure 7.2.

Figure 7. 2 NTP Settings Interface

4. Check the **NTP** checkbox to enable the feature. Set the time interval between the two synchronizing actions with NTP server in **Synchronization Interval** and set the IP address of NTP Server. Click **OK** button to save and exit.
5. Click the **OK** button to save the settings and exit.

7.2 Configuring Alarm

7.2.1 Configuring Alarm Input

Purpose:

Configure the settings for alarm input, including trigger level, arm time, alarm response actions, etc.

Steps:

1. Enter the Alarm Input Settings interface, as shown in Figure 7.3.

Menu>Other Settings>AlarmIn

Figure 7. 3 Alarm Input Settings Interface

2. Set up the Alarm Name and Trigger Level of the selected alarm input.

Note: 3 high/low level triggered (high level: 6~36 VDC; low level: 0~5 VDC) alarm input interfaces are provided. In order to avoid error report caused by voltage fluctuation, no alarm will be triggered by voltage ranging of 5~6VDC.

3. Click the **Set** button for **Trig Record Channel** and select one or more channels which will start to record when an external alarm is input.
4. Click the **Set** button for **Schedule** to set the arming schedule as shown in Figure 7.4. Up to 8 time periods can be set within each day. You can click **Copy** to copy the settings to other days.

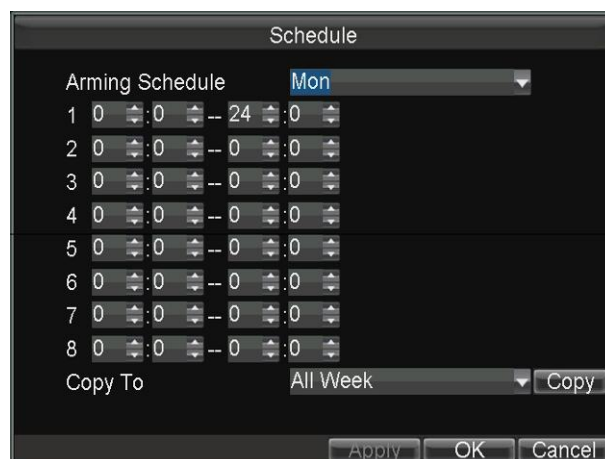


Figure 7.4 Arming Schedule Interface

5. Check the checkbox for **Handle Type** and click the **Set** button for **Handle Type** to configure alarm response actions, including Pop-up Image on Monitor, Audio Warning and Trigger Alarm Output, as shown in Figure 7.5.

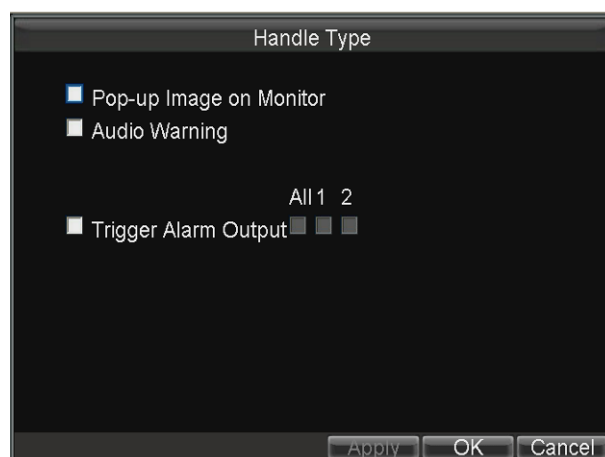


Figure 7.5 Handle Type Interface

6. Click the **Apply** and **OK** button to save the settings and exit.

7.2.2 Configuring Alarm Output

Purpose:

Arming schedule, duration, alarm name can be configured for alarm output.

Steps:

1. Enter the Alarm Output Settings Interface, as shown in Figure 7.6.

Menu>Other Settings>AlarmOut

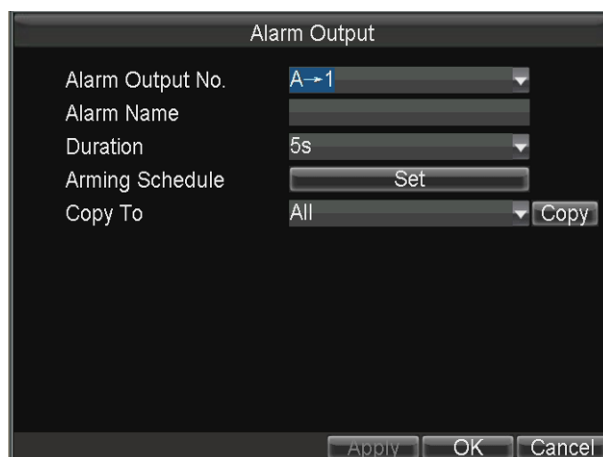


Figure 7. 6 Alarm Output Settings Interface

2. Select an alarm output and set alarm name and duration.

Note: Two relay alarm output are available which are A1 & B1, A2 & B2. If **Manually Stop** is selected in the dropdown list of **Duration**, you can clear it only through Client Software System.

3. Click the **Set** button to configure the arming schedule for alarm output, as shown in Figure 7.7. Max. 8 time periods can be set within each day. You can click **Copy** to copy the settings to other days.

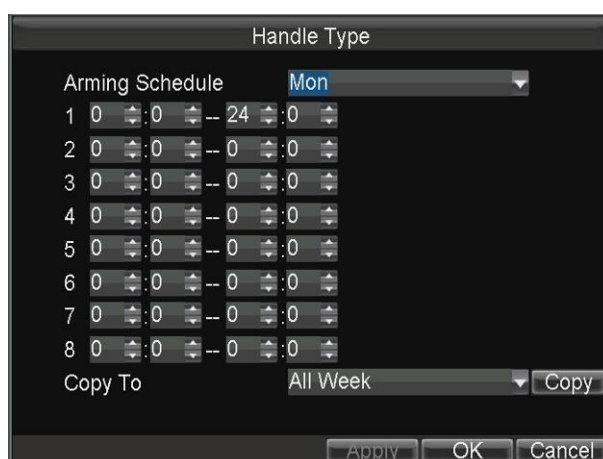


Figure 7. 7 Arming Schedule Settings Interface

4. Click **Apply** and **OK** button to save and exit.

7.2.3 Detecting Video Tampering

Purpose:

Trigger alarm when the lens is covered and take alarm response action(s).

Steps:

1. Enter the Camera Settings interface, and click the **Set** button for **More Setting**, as shown in Figure 7.8.

Menu>Other Settings>Camera>Set



Figure 7.8 Tamper-Proof Settings Interface

2. Check the Tamper-proof checkbox, and click the **Area Settings** button for **Tamper-proof** to set the areas for detecting video tampering.

Steps:

- 1) Press the **Edit** key on the remote control and a red block appears on the screen.
- 2) Press the **Direction** key on the remote control to adjust the position of the red block.
- 3) Press the **Enter** key on the remote control to save the position of the red block.
- 4) Press the **Direction** key on the remote control to adjust the size of the block and press **Enter** key to save the setting.

Note: You can press the **A** button on the remote control to clear the area.

- 5) Press the **Menu** key on the remote control to set sensitivity, including Low, Medium and High. Click the **OK** button to save and exit.
 - 6) Press the **ESC** key on the remote control to exit.
3. Click the **Handle** button for **Tamper-proof** to set arming schedule and alarm response action(s), as shown in Figure 7.9.

Alarm response actions:

- **Pop-up Image on Monitor:**

When an alarm is triggered, the local monitor displays in full screen the video image from the alarming channel configured for full screen monitoring.

- **Audio Warning:**

Trigger an audible *beep* when an alarm is detected.

- **Trigger Alarm Output:**

Trigger an alarm output when an alarm is triggered. Please refer to *Chapter 7.2.2* for alarm output settings.

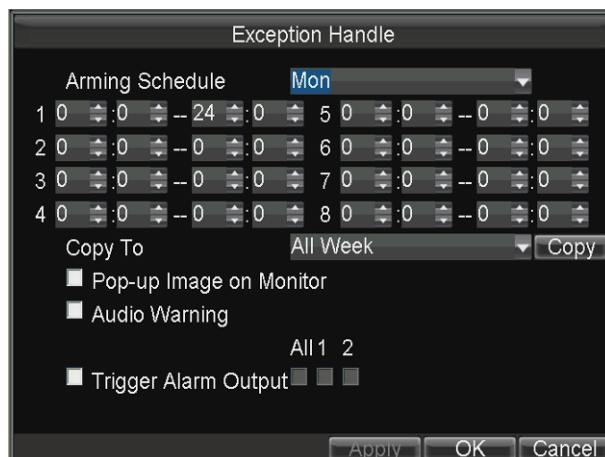


Figure 7.9 Tamper-proof Handle Interface

- Click the **Apply** and **OK** button to save the settings and exit.

7.2.4 Detecting Video Loss

Purpose:

Detect video loss of a channel and take alarm response action(s).

Steps:

- Enter the Camera Settings interface, and click the **Set** button for **More Setting**, as shown in Figure 7.10.

Menu>Other Settings>Camera>Set



Figure 7.10 Video Loss Settings Interface

- Check the **Video Loss Detection** checkbox and click the **Handle** button for **Video Loss Detection**. Set the arming schedule and alarm response action(s).

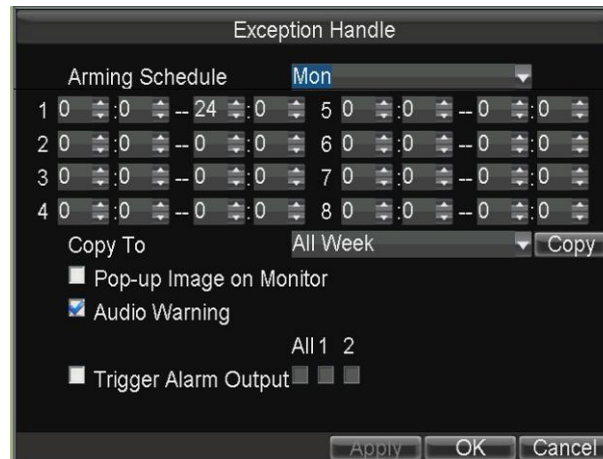


Figure 7. 11 Video Loss Handle Interface

7.2.5 Handling Exceptions

Purpose:

Exception Settings refer to the handling methods of various exceptions, e.g.

- **HDD Full:** The HDD is full.
- **HDD Error:** Writing HDD error, unformatted HDD, etc.
- **Network Disconnected:** Disconnect network cable.
- **IP Conflicted:** Duplicated IP address.
- **Illegal Login:** Incorrect user id or password.
- **Video Exception:** Unstable video signal.
- **Video Output Standard Mismatch:** I/O video standards do not match.
- **Abnormal Recording:** No space for saving recorded files.

Steps:

1. Enter the Exception interface, as shown in Figure 7.12.

Menu>Other Settings>Exception

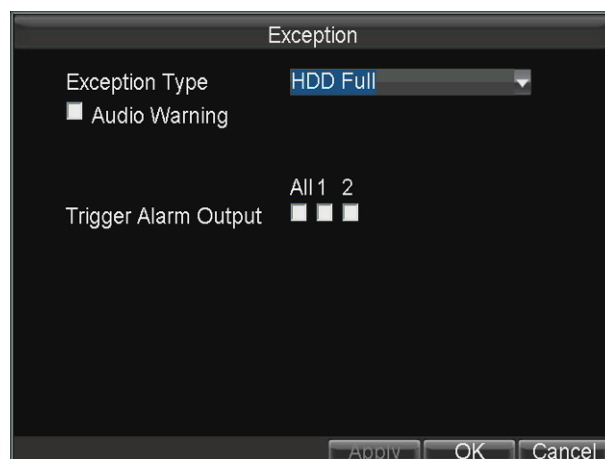


Figure 7.12 Exception Interface

2. Select the Exception Type and set the alarm response action(s).

7.3 Configuring IPC

Purpose:

The Mobile DVR can connect with up to 4 network cameras. You can enter the IPC Settings interface to add the network cameras.

Note: Only the DS-2CD7164-E network camera can be added to the Mobile DVR successfully.

Steps:

1. Enter the IPC Settings interface to configure the corresponding settings.

Menu>Other Settings>IPC Settings



Figure 7.13 IPC Settings Interface

2. Click **Add** button to enter the Add IPC interface and the found network cameras will be listed.

Note: The network camera within the same subnet with the DVR can be added and viewed successfully.



Figure 7. 14 Add IPC Interface

3. You can take either of the following ways to add the network cameras.

Task 1: Add the Network Camera Searched Online

Steps:

- 1) Press the **Up** or **Down Direction** keys on the remote control to select the network camera.
- 2) Press the **Enter** key and then the **Right Direction** key on the remote control to enter the IP Camera No. item.
- 3) Confirm the parameters of the selected camera and enter the admin password of the camera.
- 4) Click the **OK** button to add the camera.

Task 2: Add the Network Camera Manually

Steps:

- 1) Use the remote control to enter the panel under the network camera list.
- 2) Configure the corresponding parameters, including IP Camera No., IP Camera Address, Manage Port, Channel Port, Manufacturer and Admin Password of the camera.
- 3) Click the **OK** button to add the camera.
4. In the IPC Settings interface, the successfully added cameras will be shown. You can select the camera item and click the **Set IP** button to modify the parameters according to actual needs.
5. If you want to delete the network camera, select the camera item and click the **Delete** button to remove it.

7.4 Configuring Serial Port

Purpose:

RS-232 and RS-485 are provided to be configured.

The RS-232 port can be used in two ways:

- **Parameters Configuration:** Connect a PC to the DVR through the PC serial port. DVR parameters can be configured by using software such as HyperTerminal. The serial port parameters must be the same as of the device when connecting with the PC serial port.

- **Transparent Channel:** Connect a serial device directly to the device. The serial device will be controlled remotely by the PC through the network and the protocol of the serial device.

The RS-485 port can be used for transparent channel only.

Steps:

1. Enter the Serial Port Settings interface to configure the parameters, as shown in Figure 7.13.

Menu>Basic Settings>SerialPort

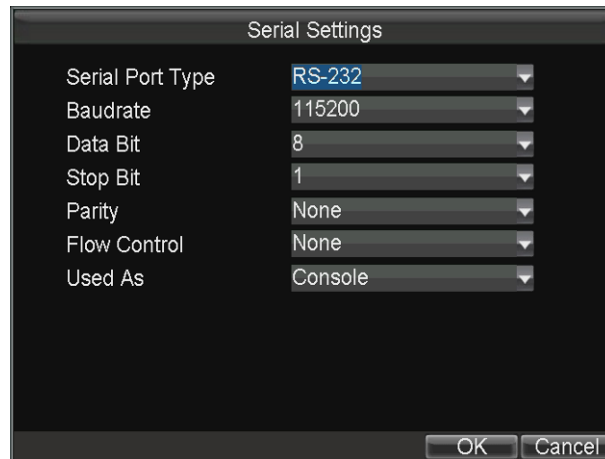


Figure 7. 15 Serial Port Settings Interface

2. Select serial port type and configure the parameters, including baud rate, data bit, stop bit, parity, flow control and usage.
3. Click the **OK** button to save the settings and exit.

7.5 Configuring Automatic Backup

Purpose:

You can connect an eSATA device through the eSATA interface on the front panel to back up the data of the DVR.

Steps:

1. Enter the Backup Settings interface.



Figure 7. 16 Backup Settings Interface

2. Configure the following settings.

- **Auto Backup:** Check the checkbox to enable automatic backup when connecting a backup device according to the defined settings.
- **Over Type:** No Over, By Time and By Time & Lock Alarm are selectable. No Over means the backup will stop when the backup device becomes full. By Time means the earliest data will be overwritten for circular backup when the backup device is full. By Time & Lock Alarm means the alarm data will never be overwritten in circular backup mode.
- **Camera:** Select a channel to configure the automatic backup parameters for it.
- **Video Type:** Choose the type of the record files for backup.
- **Days:** The value can be specified from 0 to 255. 0 means the automatic backup of the channel is disabled. 1 means only the record files of the current day will be backed up. 255 means the record files of the past 254 days till now will be backed up, and so on.
- **Time Segment 1/2:** If 0 is set for both Time Segment 1 and Time Segment 2, it means all-day backup. If you set the time segment, then record files of the defined time duration will be backed up.
- **Copy to:** You can copy the settings to other channels as desired.

3. After configuration, click the **OK** button to finish the setting for the automatic backup.

Chapter 8

Device Management and Maintenance

8.1 Checking Status

The status of recording, 3G platform, GPS, G-Sensor, alarm and WiFi can be checked in the Status interface (Menu>Status).

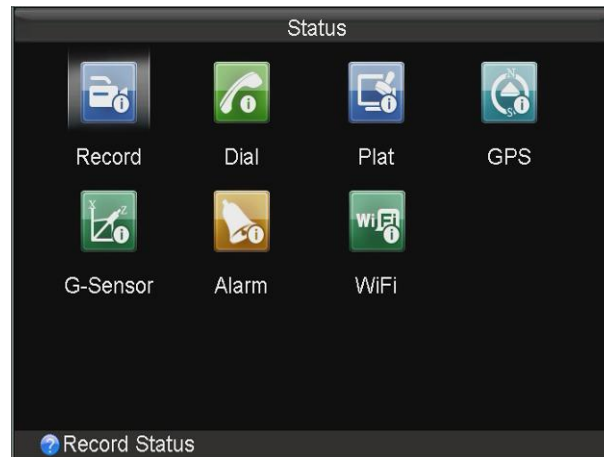


Figure 8. 1 Status Interface

8.2 Management and Maintenance

8.2.1 Upgrading the System

Purpose:

The Mobile DVR can be upgraded by local USB flash disk or remote FTP server.

Steps:

- Upgrading by local USB flash disk

Before you start:

Connect your DVR with a local UBS flash disk where the update firmware file is located in the root directory.

1. Enter the Upgrade interface and select upgrade type as USB Upgrade, as shown in Figure 8.2.

Menu>Maintenance>Upgrade

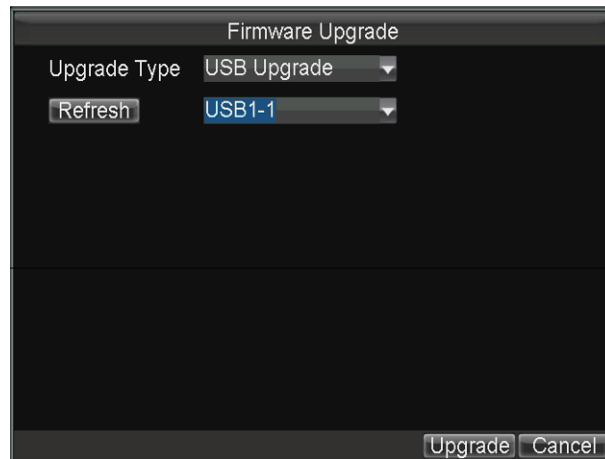


Figure 8. 2 Upgrade Interface

2. Click the **Upgrade** button to start upgrading.

- Upgrading by remote FTP server

Before you start:

Configure PC (running FTP server) and DVR to the same Local Area Network. Run the 3rd-party TFTP software on the PC and copy the firmware into the root directory of TFTP.

1. Enter the Upgrade interface and set upgrade type to FTP Upgrade, as shown in Figure 8.3.

Menu>Maintenance>Upgrade

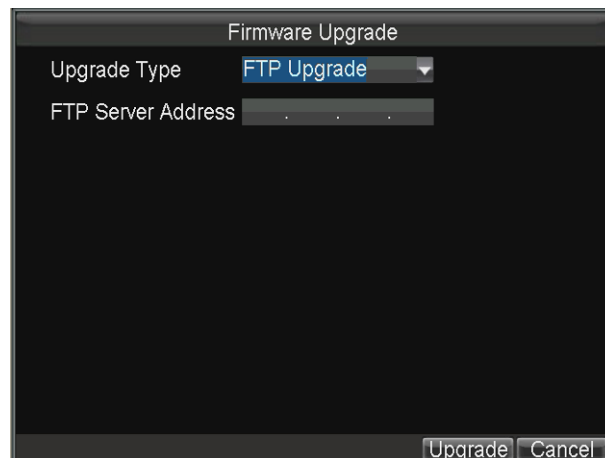


Figure 8. 3 Upgrade Interface

2. Input the FTP Server Address in the text field.

3. Click the **Upgrade** button to start upgrading.

8.2.2 Searching & Exporting Log files

Purpose:

The operation, alarm, exception and information of the device can be stored in log files, which can be viewed and

exported at any time.

Steps:

1. Enter the Log Search interface.

Menu>Maintenance>Log Search

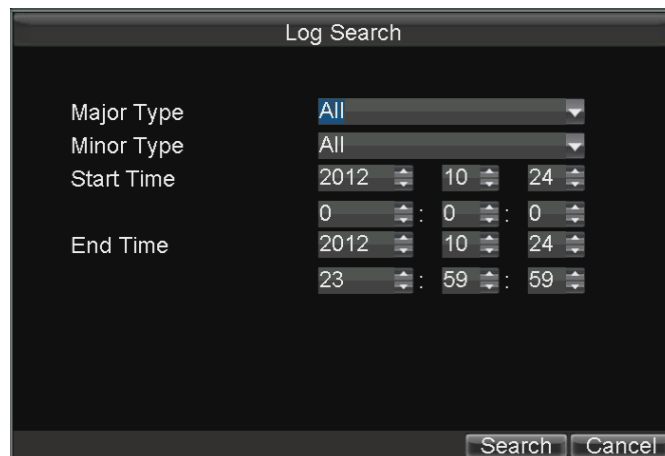


Figure 8. 4 Log Search Interface

2. Set the log search conditions, including Major Type, Minor Type, Start Time and End Time.
3. Click the **Search** button to search log files.

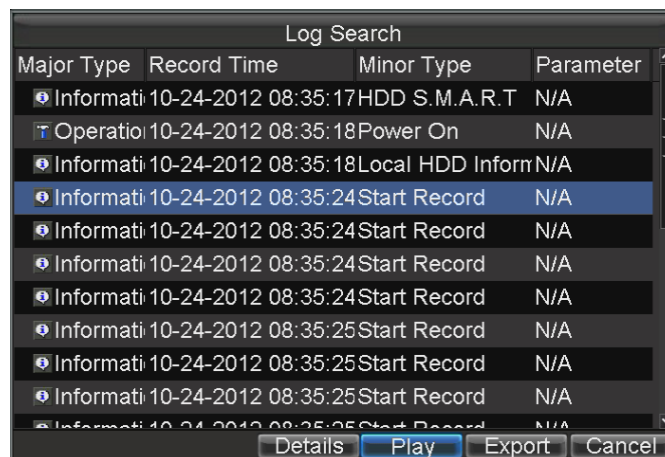


Figure 8. 5 Log Search Results

4. Click the **Details** button to view its detailed information.

Note: Up and Down keys on the remote control are used for selecting log file and Left and Right keys are used for selecting operation.

5. You can also click the **Play** button to view the related video files if available.
6. If you want to export the log file, click the **Export** button to export the selected one.

Note: Please connect the USB device to DVR before operating log export.

8.2.3 Restoring Default Settings

Steps:

1. Enter the Default interface.

Menu>Maintenance>Default

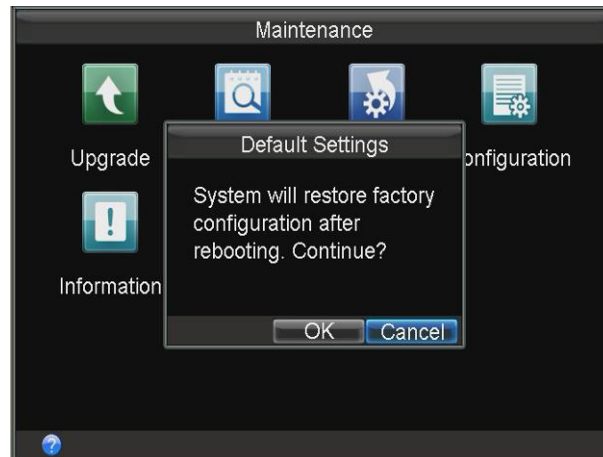


Figure 8. 6 Restore Default Settings

2. Click the **OK** button to start restoring default settings.

8.2.4 Importing/Exporting Configuration Files

Purpose:

The configuration files of the DVR can be exported to local device for backup; and the configuration files of one device can be imported to multiple device devices if they are to be configured with the same parameters.

Before you start:

Connect your DVR with a local UBS device.

Steps:

1. Enter the Import/Export Configuration Files interface, as shown in Figure 8.7.

Menu>Maintenance>Configuration

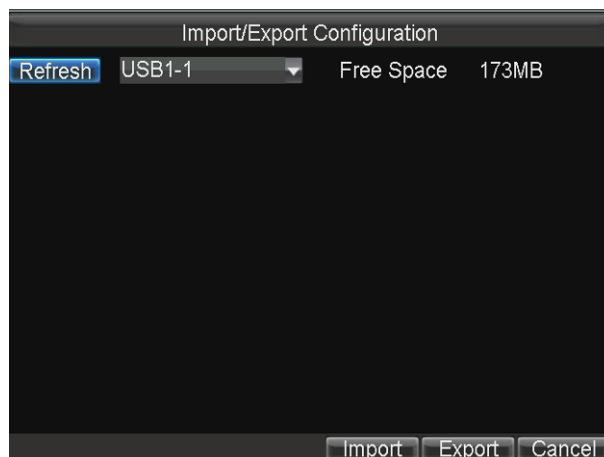


Figure 8. 7 Import/Export Configuration Files

2. Click the **Export** button to export configuration files to the USB device.
3. Before importing a configuration file, you need to connect a USB device with the DVR and the configuration file should be placed in the root directory of the USB device. Click the **Import** button. After the import process is completed, you must reboot the device.

8.2.5 Viewing System Information

Steps:

1. Enter the System Information interface.

Menu>Maintenance>Information



Figure 8. 8 System Information

2. You can view the device name, model, serial No. , firmware version, encoding version and panel version.

8.2.6 Backup Device

Purpose:

You can view the status and the free space/capacity of the USB backup device or eSATA backup device connected. And you can also format the backup device.

Steps:

1. Enter the Backup Device interface, as shown in Figure 8.9.

Menu>Maintenance>Storage

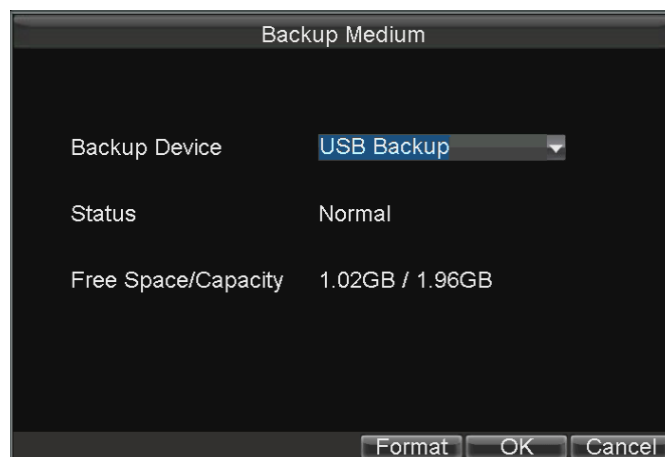


Figure 8. 9 Backup Device Interface

2. You can view the status and the free space/capacity of the backup device.
3. Formatting the backup device is also available.

8.2.7 Rebooting DVR

You can go to the Reboot interface (Menu>Maintenance>Reboot) to reboot the DVR.

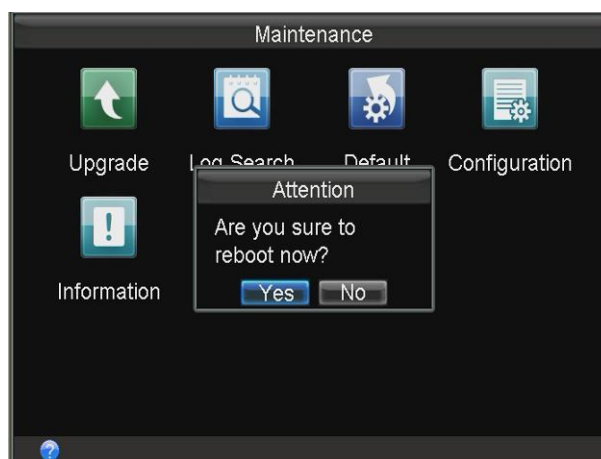


Figure 8. 10 Reboot Interface

Appendix

Glossary

- **3G:** 3G refers to the 3rd-generation telecommunication technology which is the high speed transmission of the cell data. The 3G service can transmit sound and other data simultaneously and the bitrate is up to hundreds kbps. There are 4 standards for the 3G, the CDMA2000, WCDMA, TD-SCDMA, and WiMAX.
- **DHCP:** DHCP is the acronym of Dynamic Host Configuration Protocol, and it is one of the TCP/IP protocol stacks, it is used to assign the dynamic IP address to the host on the network.
- **Dual Stream:** Dual stream is a technology used to record high resolution video locally while transmitting a lower resolution stream over the network.
- **GPS:** GPS (Global Positioning System) is a space-based global navigation satellite system that provides location and time information in all weather and anywhere on or near the earth, where there is an unobstructed line of sight to 4 or more GPS satellite.
- **G-Sensor:** G-sensor (Gravity-sensor) can sense the change of the accelerated force, such as the shaking, free falling and lifting. And those changes of the accelerated force can be sensed by the G-sensor in a means of electrical signals, and then link certain action according to the changes of the electrical signals. When applied in the hard disk protection, G-Sensor can check the current status of the hard disk in case of the affection of the R/W function by the sudden change of the accelerated force.
- **IPC:** An Internet protocol camera, or IP camera, or network camera, is a kind of digital video camera commonly used for surveillance, and which unlike analog closed circuit television (CCTV) cameras can send and receive data via a computer network and the Internet.
- **NTP:** NTP is Network Time Protocol, and it is a protocol used to synchronize the computer time.
- **Sensor-In:** Sensor-In is a built-in module on the mobile DVR used to record the movement information of the vehicle, such as the braking, left-turning and right0turning and so on. The information can be used for analysis of an accident.
- **Transparent Channel:** Transparent channel is a mechanism which analyzes the IP datagram and sends it by the serial interface. It extends the control distance of the serial devices and for the user, only the point to point transmission is seen and the actual transmission is ignored.
- **VPDN:** Virtual Private Dial-up Network is a network that uses primarily public telecommunication infrastructure, such as the internet, to provide remote office or travelling users' access to a central organization network, such as the ISP private network, financial network and so on.
- **WiFi:** WiFi is a mechanism of the wireless connecting electronic devices. A device enabled with WI-FI such as PC, video game console, can connect to the internet via a wireless network access point.

FAQ

- **Why does my DVR make a beeping sound after booting?**

The possible reasons for the warning beep on the device are as follows:

- a) There is no HDD installed in the device.
- b) The HDD is not initialized.
- c) HDD error

To cancel the beeping sound and use the device without HDD, enter the Exception Settings interface. For detailed information, see *Chapter 7.2.5 Handling Exceptions*.

- **DVR fails to start up after connecting the power.**

Possible reasons:

- a) Incorrect voltage input (6 ~ 36 VDC) and power consumption ($\geq 50W$).
- b) The HDD lock is enabled.
- c) The power connections are incorrect and please refer to *Chapter 1.4*.
- d) The motherboard or power functions abnormally. In case of hardware failure, please contact the supplier of the product.

- **Fail to connect 3G.**

Possible reasons for 3G connection failure are as follows:

- a) Dialing is not enabled.
- b) APN, dial number, user name and password should be set for 3G VPDN private network.
- c) No 3G antenna connected. When both the master/slave antennas are connected, locate them vertically with above 20cm distance from each other.
- d) SIM card is out of service or 3G service is not opened.

- **Fail to connect to WiFi.**

Please check the following settings:

- a) The SSID, encryption type or password are entered incorrectly.
- b) AP (access point) or router works abnormally.
- c) No WiFi antenna connected or the antenna is not vertically located.

- **The DVR cannot be accessed via platform (iVMS / WVS) after successful connection to 3G or WiFi.**

Possible reasons:

- a) The parameters (e.g., server IP, device registered ID, etc.) of the platform are configured incorrectly.
- b) The platform works abnormally.

- **Fail to obtain GPS information.**

Possible reasons:

- a) The GPS antenna is not placed outdoor.
- b) There is no GPS module (built-in or external) available for the DVR.
- c) The **GPS Module** are configured incorrectly (please see *Chapter 6.2*).

- **Why does the device seem unresponsive when operating with the IR remote control?**

Please read *Chapter 1.3*, and check:

- a) The batteries are installed correctly, making sure that the polarities of the batteries are not reversed.
- b) The batteries are fresh and are not out of power.
- c) The remote sensor is not covered or blocked by other object.
- d) There are no fluorescent lamps in use nearby.

- **Failed to live view after successfully adding the network camera.**

Possible reasons:

- a) The admin password of the network camera is not entered when adding the camera.
- b) The added network camera is not in the same subnet with the DVR.
- c) Only the DS-2CD7164-E network camera can be added successfully.
- d) The IP channel is not enabled in the Camera Order in Display Settings interface.

- **No backup device is detected when exporting recorded files?**

Possible reasons:

- e) There is no backup device connected with the DVR.
- f) The DVR and your backup device are not compatible.
- g) Initialize the backup device before using.
- h) The backup device is damaged.

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